SANS DIGITAL

TOWERRAID TR8U+(B)

DETAILED USER'S MANUAL v1.0

1 WELCOME

1.1 INTRODUCTION

Thank you for choosing SANS DIGITAL TR8U-B/TR8U storage appliance. Using a revolutionary 8 bay design, it creates a versatile USB storage box that will fulfill you never-ending storage need.

1.2 PRECAUTION

Please read the precautions carefully before you using SANS DIGITAL TR8U-B/TR8U storage appliance. Ensure that you use the product correctly according to the procedure described in this guide.

The following safety precautions are intended to remind you to operate the product safely and correctly. Please read and ensure that you understand them before you proceed to the other sections of this guide.

- Do not attempt to disassemble or alter any part of the product that is not describe in this guide.
- Do not allow the product to come into contact with water or other liquids. In the event that water or other liquids enter the interior, immediately unplug the product from the computer. Continued use of the product may result in fire or electrical shock. Please consult your product distributor or the closest support center.
- Do not handle the product near a heat source or expose them to direct flame or heat.
- Never place the product in close to equipment generating storage electromagnetic fields. Exposure to strong magnetic fields may cause malfunctions or corrupt data.
- Windows 3.x/ 95/ 98SE/ ME/ NT is not supported
- Please be noted the following product is not supported:
    - ✓ Toshiba DynaBook, Satellite series (All K6 CPU models).
    - ✓ IBM Aptiva E series (All K6 CPU models).
    - ✓ Sotec E-note M260 series.
    - ✓ All AMD K6 system.
    - ✓ PC with sis7000/ 7001/ 7002 PCI to USB host controller.

1.3 FEATURES

- Eight 3.5-inch SATA hard disk drives to USB interface.
- Selectable USB mode: Hard Drives can combine (Spanning mode, 3 different kinds) or individually access (JBOD).
- Selectable Power mode: Auto Power Mode (Automatic On/Off with the computer) or Normal Power Mode (manual On/Off).
- Supports Plug & Play automatic system configuration.
- Supports USB high-speed (480 Mbps), and backward-compatibilies to full-speed (12 Mbps) data transfer modes.
- Supports Plug & Play for easy installation.
- Compact Enclosure with Dust-Free Cover.
- 300 watts power supply (90V to 264V).

1.4 SYSTEM REQUIREMENTS

Please make sure your system meet the following requirements:

- IBM PC/AT Compatible, iMac, Mac mini, Mac Pro, Macbook, Macbook Pro, G5, Power Macintosh, eMac, iMac, PowerBook G4, iBook G4.
- Windows 2000/ XP/ Vista/ Server 2003, Mac OS X 10.3 or higher operation system with latest service pack installed.
- An available USB port.

1.5 PRODUCT CONTENTS

The following parts are content.

- SANS DIGITAL TR8U-B/TR8U x 1
- USB2.0 Cable x 1
- AC Cable x 1
- Tool-less Screw x 8
- User Manual & Utilities CD x 1

2 INSTALLATION

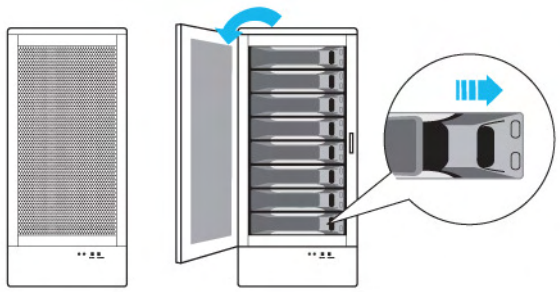
2.1 BEFORE INSTALLING

Before plug-in the power cable, switch the VAC to the correct position (For example, 115 for USA/JAPAN, 230 for Europe) before installing. Fail to do so will result in malfunctions or damage.

2.2 INSTALLING HARD DISK DRIVE

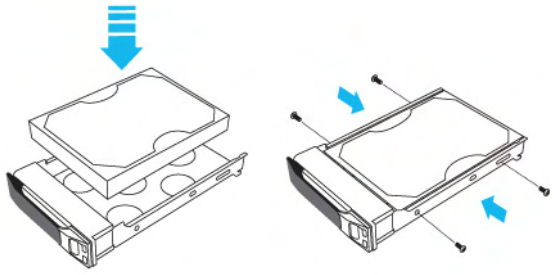
Please refer below procedure to complete the HDD installation:

1. Open the front hard drive panel of the unit.



2. Remove the hard drive trays by pushing the silver tray tab to the right and releasing the tray handle.

3. Install each hard drive by placing them into the hard drive trays and securing them on both sides with the included screws.

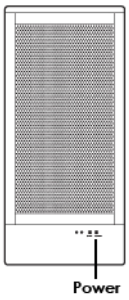


4. Place the trays back into the unit and lock them in place by pushing the tray handles in.

5. Close the front hard drive panel.

2.3 POWER ON / OFF

- Power ON: Push the power switch located in the front to switch on the power.
- Power OFF: Push and hold power switch more than 3 secends to switch off the power.



3 MODE SETTING

3.1 INTRODUCTION

The SANS DIGITAL TR8U-B/TR8U storage appliance is an easy-to-use storage that provides variety of modes; you can simplely set up the mode by hardware DIP switch on the back panel. The mode shows as seen below.

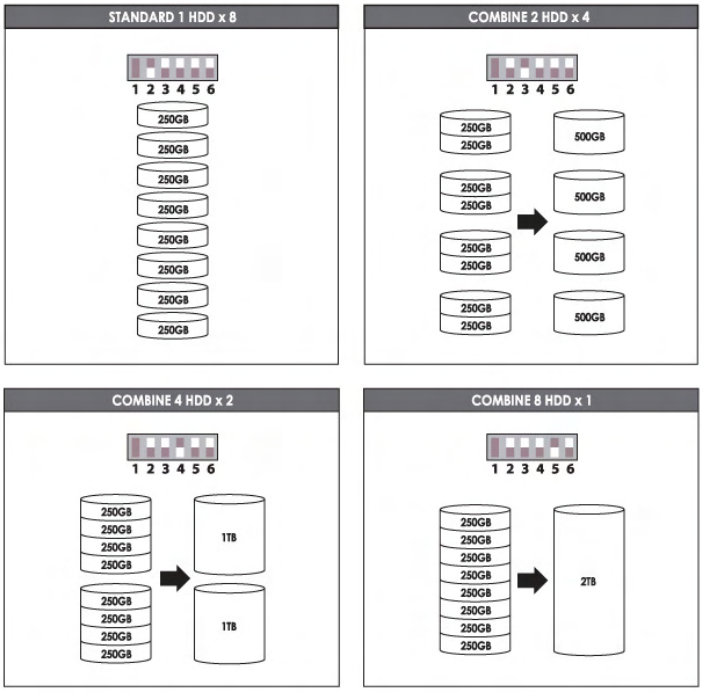
3.2 DISK DRIVE MODE

Please read the notics carefully before you change disk drive mode. The following notices are intended to remind you to operate the product correctly. Please read and ensure that you understand them before you proceed to change disk drive mode.

- **Data will be lost, when the mode change.**
- **Turn off the power of storage device before change mode.**
- **2TB capacity is the limitation for each disk volume.**

Switch the DIP 2 ~ 6 to setup the disk drive mode on the back panel. Please refer to the diagrams.

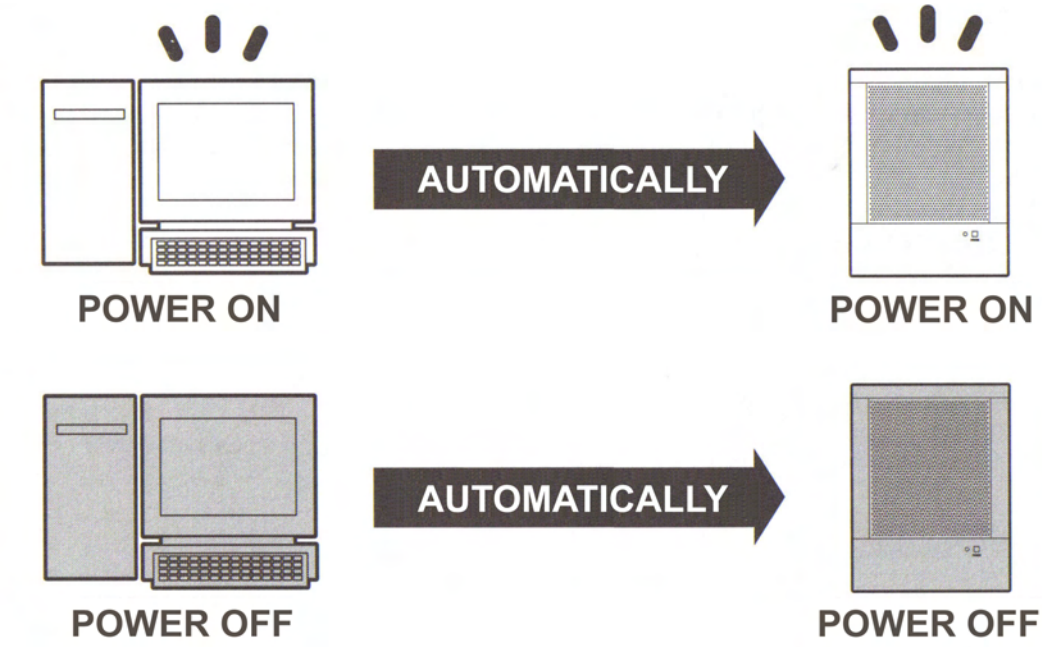
- **Standard Drive Mode:** It is a JBOD mode, where the unit will access each hard drive individually. The number of Hard Drive avalible to computer equal to the number of hard drive you installed.
- **8 Hard Disk Drive Combine Drive Mode:** It is a single Spanning mode, where the unit will combine all of the hard drives installed and accesses it like one large hard drive. There is only one hard drive shows on the computer.
- **4 Hard Disk Drive Combine Drive Mode:** It is a two set of Spanning mode, where the unit will combine four of the hard drives installed and access it like two large hard drive. There are only two hard drives shown on the computer.
- **2 Hard Disk Drive Combine Drive Mode:** It is a four set of Spanning mode, where the unit will combine two of the hard drives installed and access it like four large hard drive. There are only four hard drives shown on the computer.



3.3 POWER MODE

Switch the DIP 1 on the back panel to set up the NORMAL POWER MODE or AUTO POWER MODE; In NORMAL POWER MODE, SANS DIGITAL TR8U-B/TR8U operate in manual on and off. Press once on the power button, power will turn on. Hold power button for more than 3 seconds, power will turn off.

In AUTO POWER MODE operating, SANS DIGITAL TR8U-B/TR8U will automatically power on when PC system is on, and power off when PC system is off.

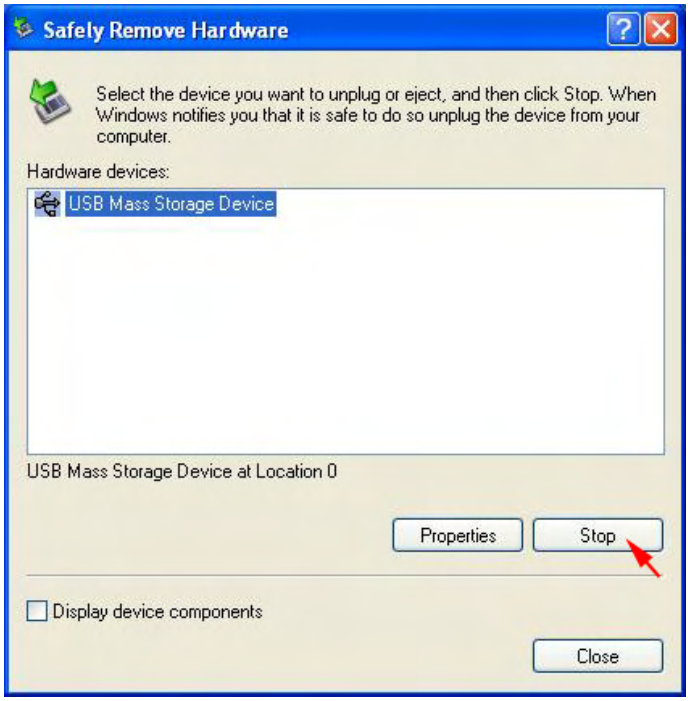


3.4 UNPLUG PROCEDURE

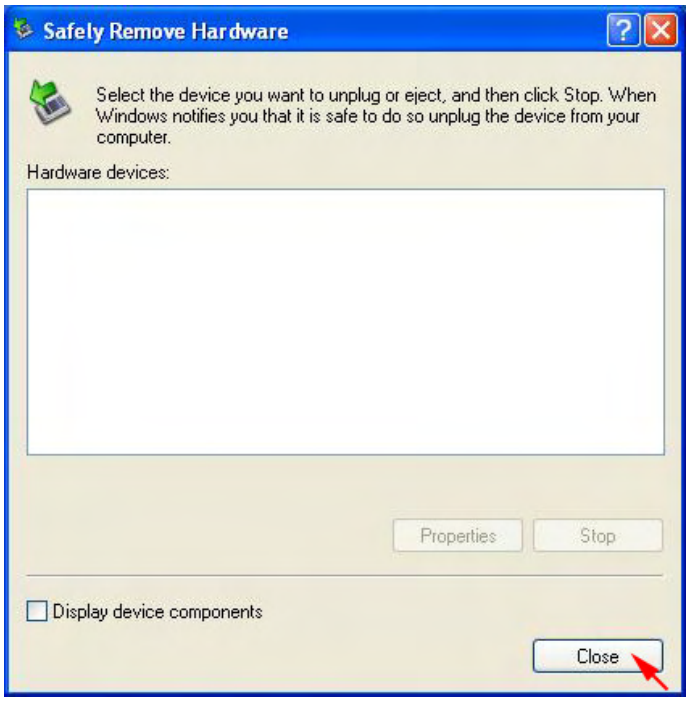
1. Right click on the "**Safely Remove Hardware**" icon

2. Click on the “**Safely Remove Hardware**”.

3. Select “**USB Mass Storage Device**”, click on on “**Stop**”.


Safely Remove Hardware
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.
Hardware devices:
USB Mass Storage Device
USB Mass Storage Device at Location 0
Properties
Stop
Display device components
Close

4. Select “**USB Device**”, click “**OK**”.
5. Click on “**Close**” to finish.


Safely Remove Hardware
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.
Hardware devices:
Properties
Stop
Display device components
Close

⚠ WARNING !

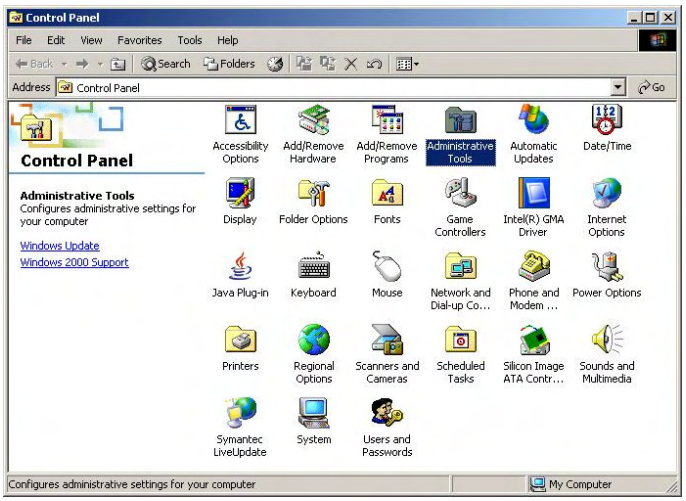
To assure no data will be lost, always follow the unplug procedure. Fail to do so will result in data lost.

4 ALLOCATING PARTITION

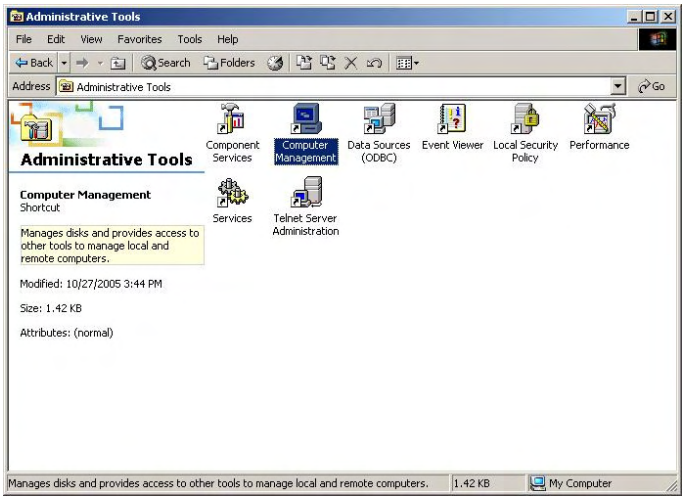
4.1 ALLOCATING PARTITION ON WINDOWS 2000

Before creating any partitions, disk drive mode must be selected using the DIP switch on the back panel. Turn on the computer and open the Control Panel window (located at: Start > Settings > Control Panel).

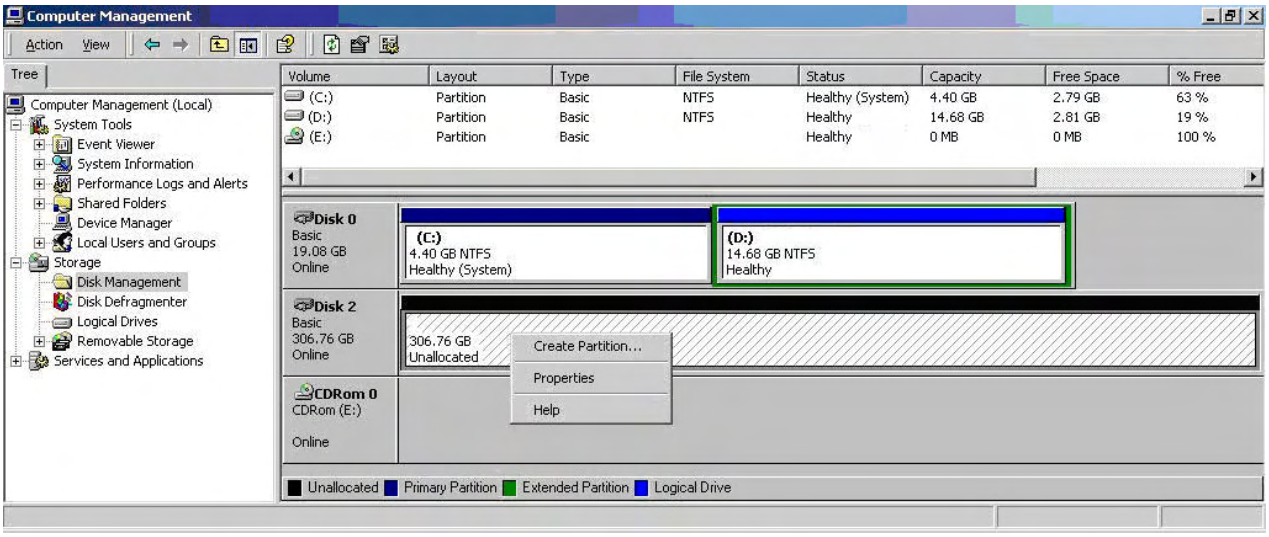
1. Double-click on **Administrative Tools**.



2. Double-click on **Computer Management**.



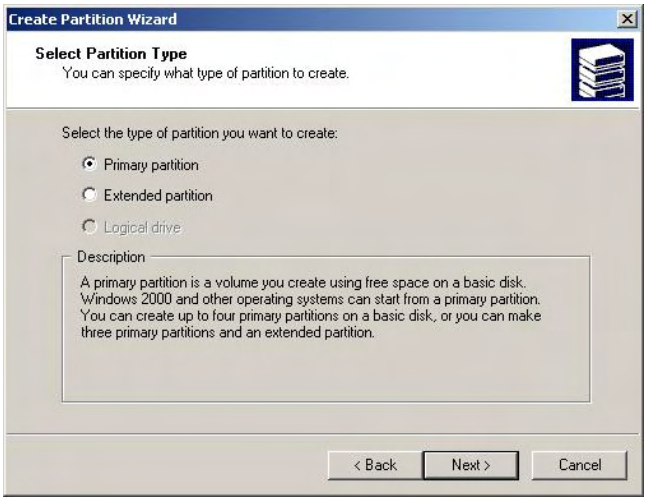
3. Select **Disk Management** under **Storage** to view the disk drives.
4. Right-click on each **Unallocated** partition and select **Create Partition** from the pop-up menu.



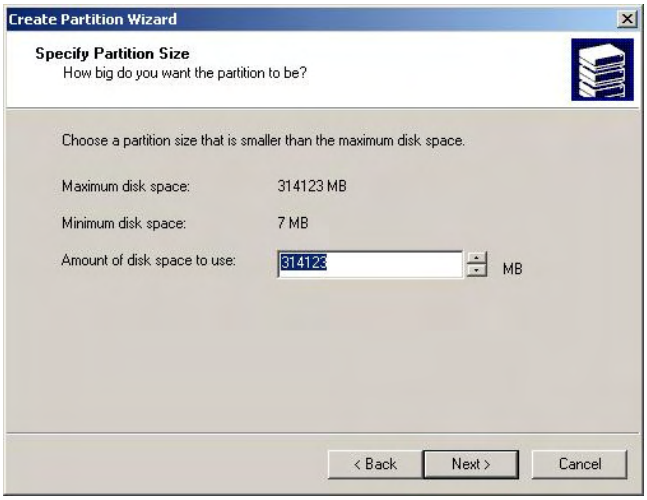
5. Click **Next** to create a partition on a basic disk.

Create Partition Wizard
Welcome to the Create Partition Wizard
This wizard helps you create a partition on a basic disk.
A basic disk is a physical disk that contains primary partitions, extended partitions, and logical drives. A basic disk may also contain volumes created with Windows NT 4.0 and earlier. You can also use MS-DOS to gain access to partitions on basic disks.
To continue, click Next.
< Back
Next >
Cancel

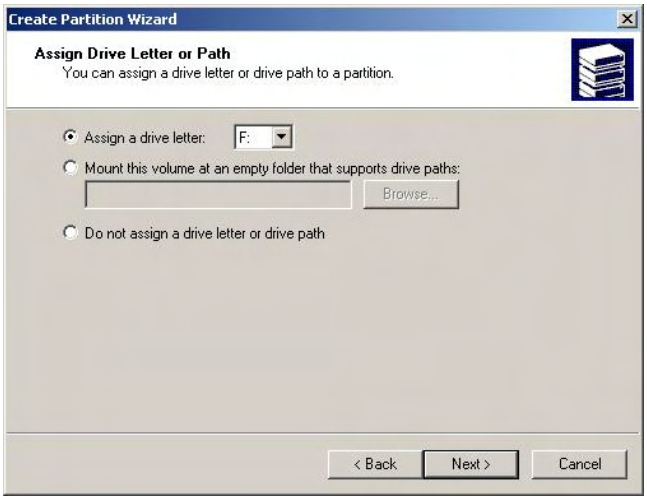
6. Select the partition type you want to create, than click **Next**.


Create Partition Wizard
Select Partition Type
You can specify what type of partition to create.
Select the type of partition you want to create:
Primary partition
Extended partition
Logical drive
Description
A primary partition is a volume you create using free space on a basic disk. Windows 2000 and other operating systems can start from a primary partition. You can create up to four primary partitions on a basic disk, or you can make three primary partitions and an extended partition.
< Back
Next >
Cancel

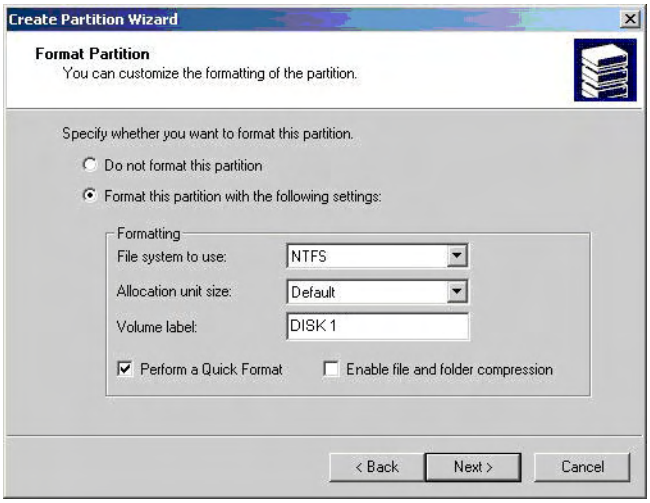
7. Specify the partition size you want to create, than click **Next**.


Create Partition Wizard
Specify Partition Size
How big do you want the partition to be?
Choose a partition size that is smaller than the maximum disk space.
Maximum disk space: 314123 MB
Minimum disk space: 7 MB
Amount of disk space to use: 314123 MB
< Back
Next >
Cancel

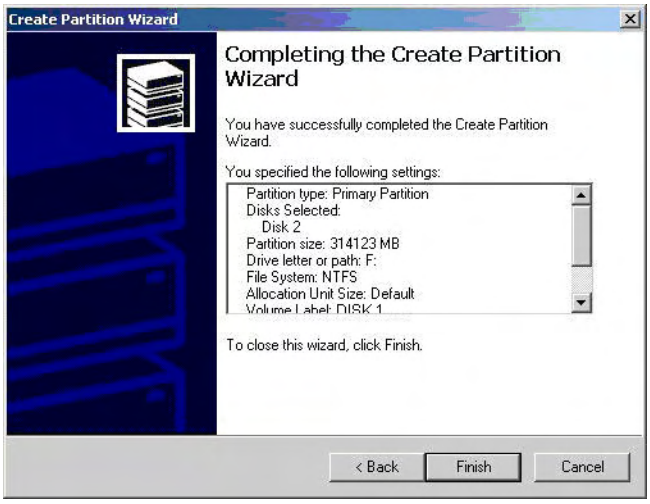
7. Assign the drive letter or path you want to create, click **Next**.


Create Partition Wizard
Assign Drive Letter or Path
You can assign a drive letter or drive path to a partition.
Assign a drive letter: F:
Mount this volume at an empty folder that supports drive paths:
Browse...
Do not assign a drive letter or drive path
< Back
Next >
Cancel

8. Click **Format this partition with the following settings** and **Perform a Quick Format**, setup the **File system to use**, **Allocation unit size**, **Volume label**, than click **Next**.

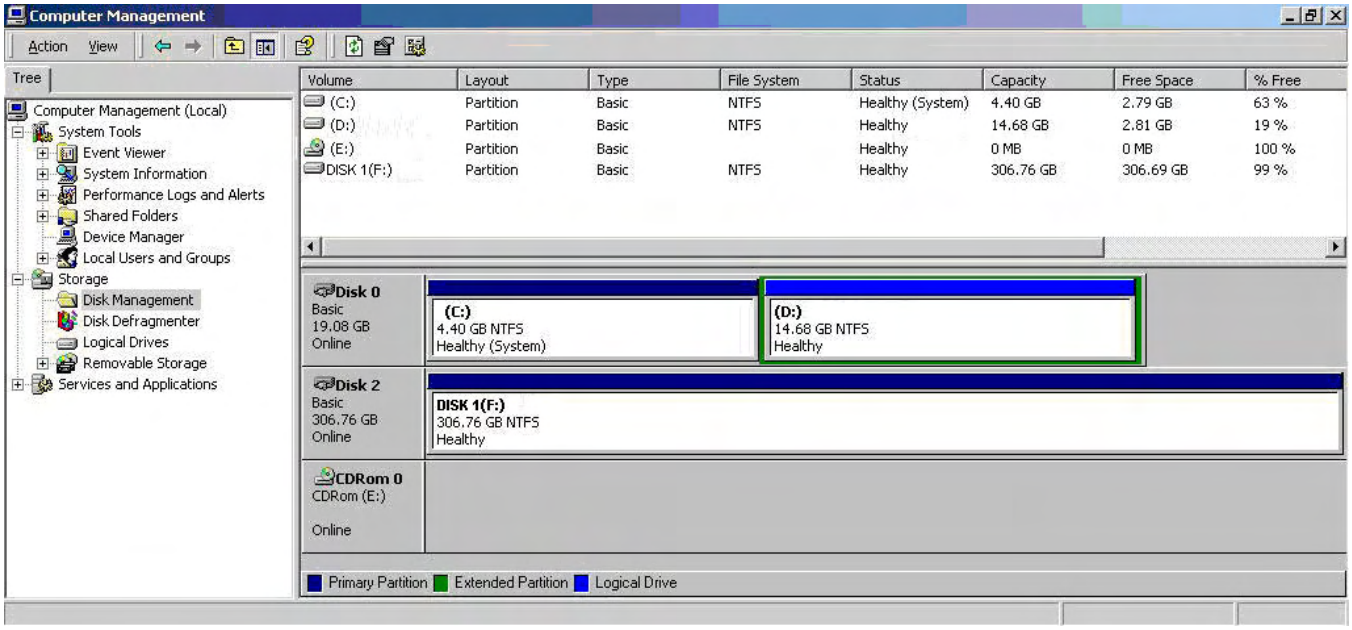

Create Partition Wizard
Format Partition
You can customize the formatting of the partition.
Specify whether you want to format this partition.
Do not format this partition
Format this partition with the following settings:
Formatting
File system to use: NTFS
Allocation unit size: Default
Volume label: DISK 1
Perform a Quick Format
Enable file and folder compression
< Back
Next >
Cancel

9. When the **Create Partition Wizard** has completed, click **Finish**.

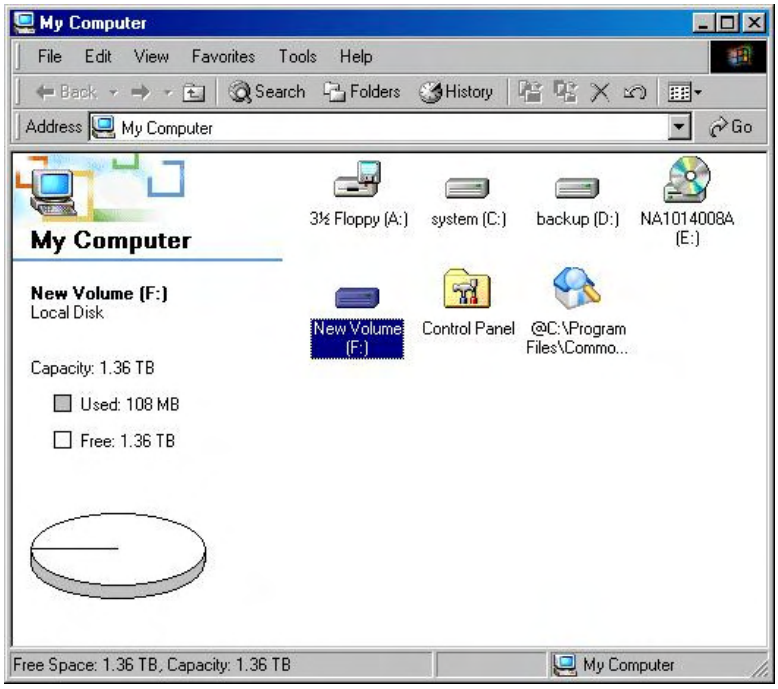


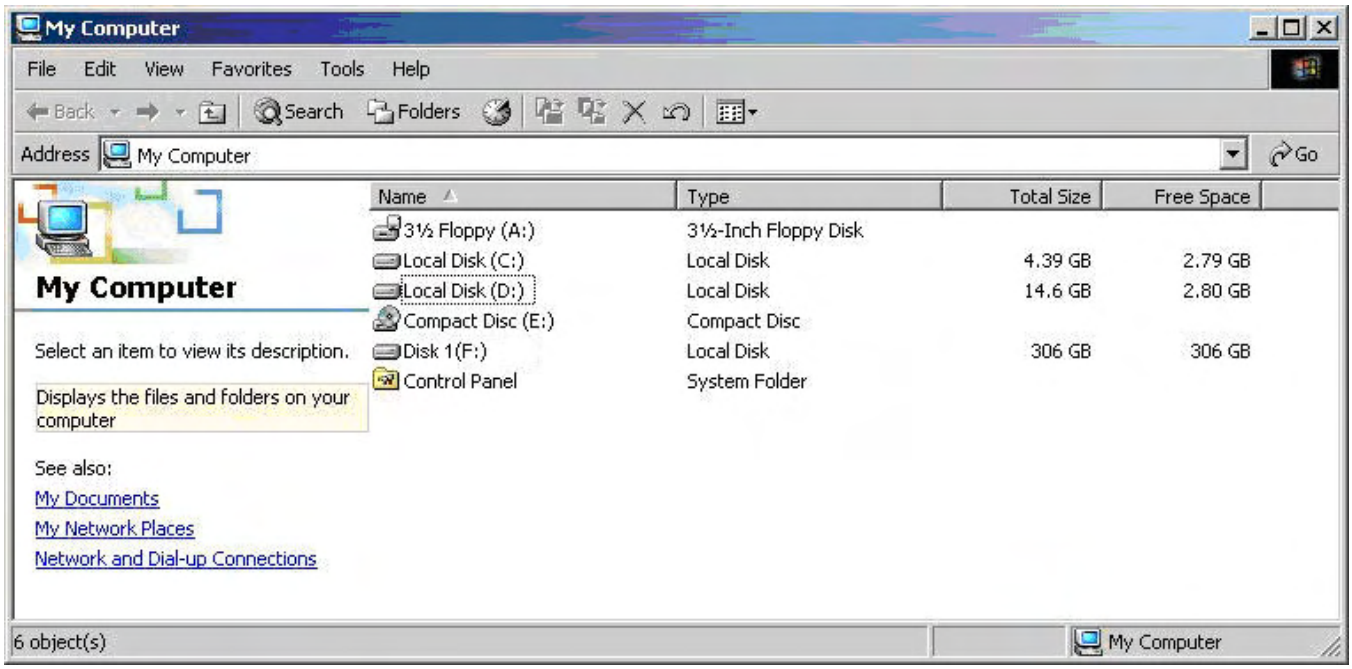
10. Restart your computer after completed the steps ablove.

The status of the created partition in the Disk Management window will change to "**Formatting".** The percentage complete will be displayed. Depending upon the size of the partition, the format process may take several minutes. When completed, the status will change to **"Healthy"** and the name and drive letter will be updated. Once the disk reports Healthy, it appears to the computer and ready to use.



Repeat the above procedure if there are any other partitions. Close the Data Management window by clicking on the small boxed “X” in the top right corner of the window. Click on the “My Computer” icon on the Desktop. The new drives will be display and properly named. The new disks are now available for use.

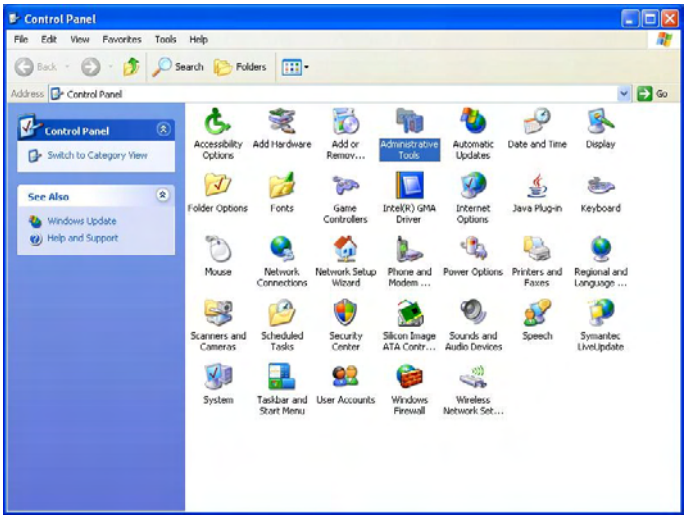




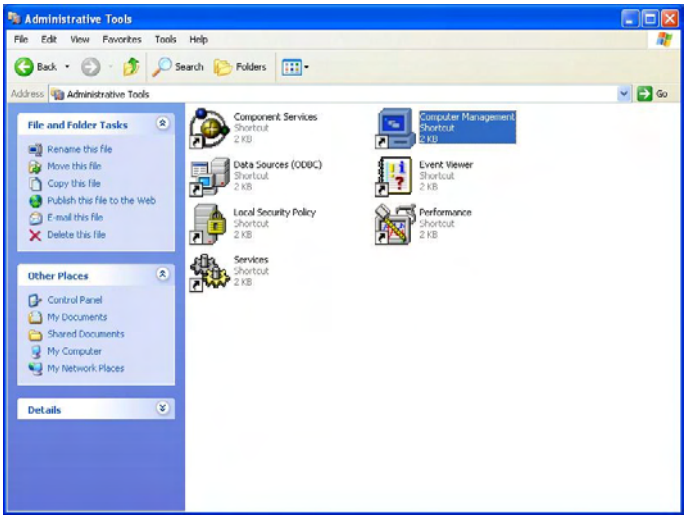
4.2 ALLOCATING PARTITION ON WINDOWS XP AND SERVER 2003 (32/64BITS)

Before creating any partitions, disk drive mode must be selected using the DIP switch on the back panel. Turn on the computer and open the Control Panel window (located at: Start > Control Panel).

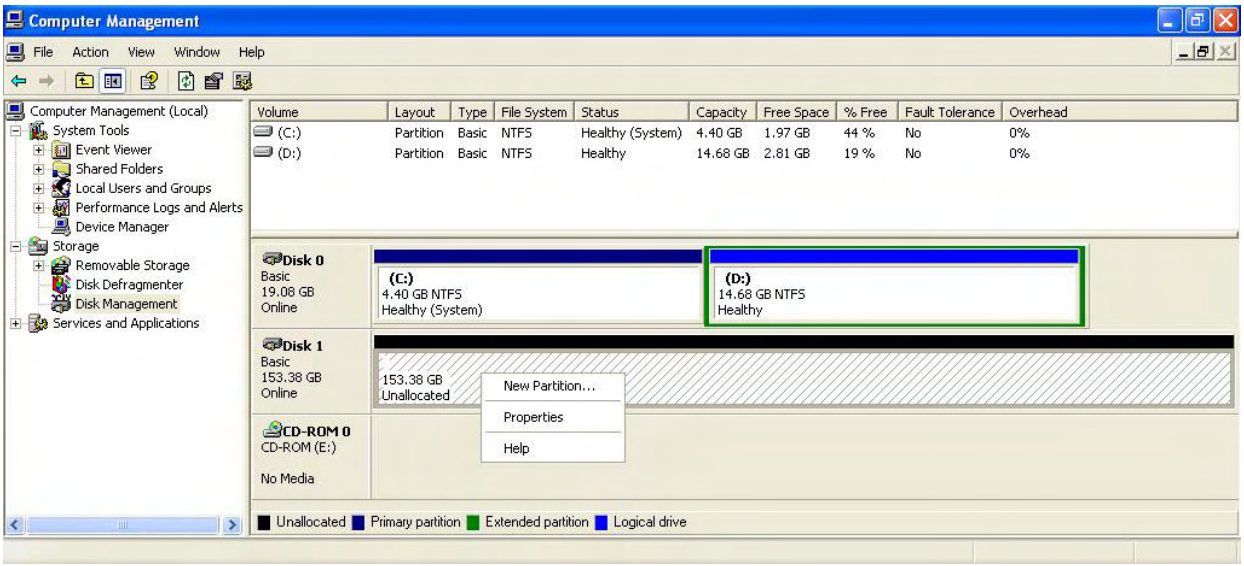
1. Double-click on **Administrative Tools**.



2. Double-click on **Computer Management**.



3. Select **Disk Management** under **Storage** to view the disk drives.
4. Right-click on each **Unallocated** partition and select **New Partition** from the pop-up menu.



5. Click **Next** to create a partition on a basic disk.

New Partition Wizard
Welcome to the New Partition Wizard
This wizard helps you create a partition on a basic disk.
A basic disk is a physical disk that contains primary partitions, extended partitions, and logical drives. You can use any version of Windows or MS-DOS to gain access to partitions on basic disks.
To continue, click Next.
< Back
Next >
Cancel

6. Select the partition type you want to create, click **Next**.

New Partition Wizard
Select Partition Type
There are three types of partitions: primary, extended, and logical.
Select the partition you want to create:
Primary partition
Extended partition
Logical drive
Description
A primary partition is a volume you create using free space on a basic disk. Windows and other operating systems can start from a primary partition. You can create up to four primary partitions or three primary partitions and an extended partition.
< Back
Next >
Cancel

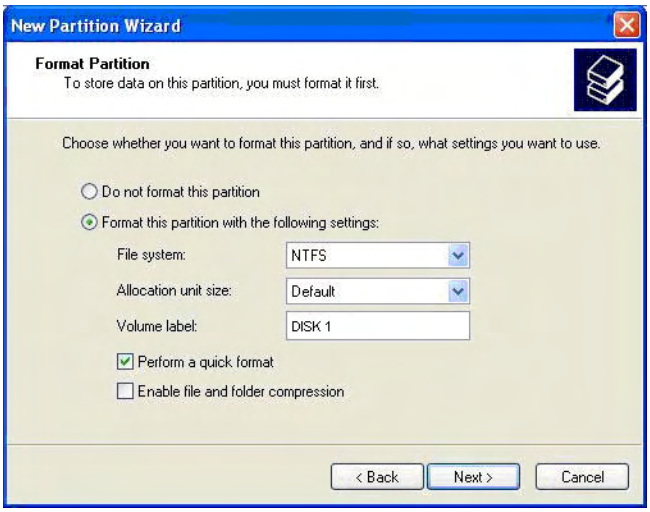
7. Specify the partition size you want to create, click **Next**.

New Partition Wizard
Specify Partition Size
Choose a partition size that is between the maximum and minimum sizes.
Maxium disk space in megabytes (MB): 157057
Minimum disk space in MB: 8
Partition size in MB: 157057
< Back
Next >
Cancel

8. Assign the drive letter or path you want to create, click **Next**.

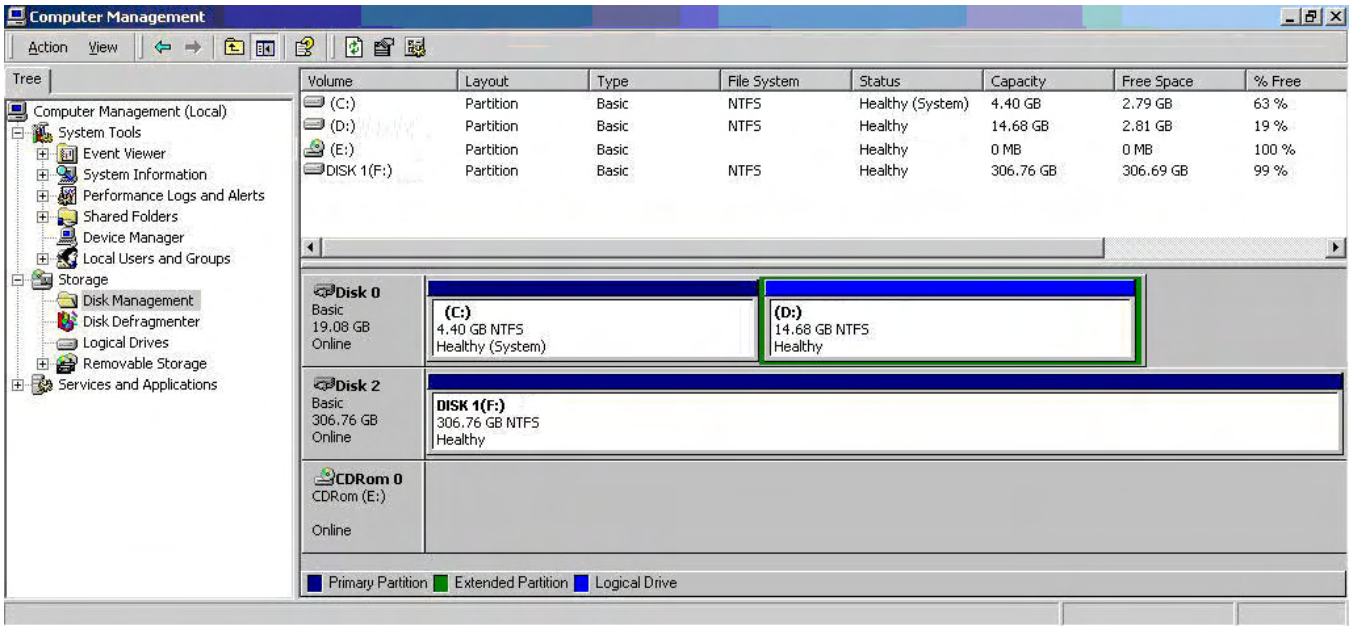
New Partition Wizard
Assign Drive Letter or Path
For easier access, you can assign a drive letter or drive path to your partition.
Assign the following drive letter: F
Mount in the following empty NTFS folder:
Browse...
Do not assign a drive letter or drive path
< Back
Next >
Cancel

9. Click **Format this partition with the following settings** and **Perform a quick format**, select the **File system**, **Allocation unit size**, **Volume label**, and click **Next**.

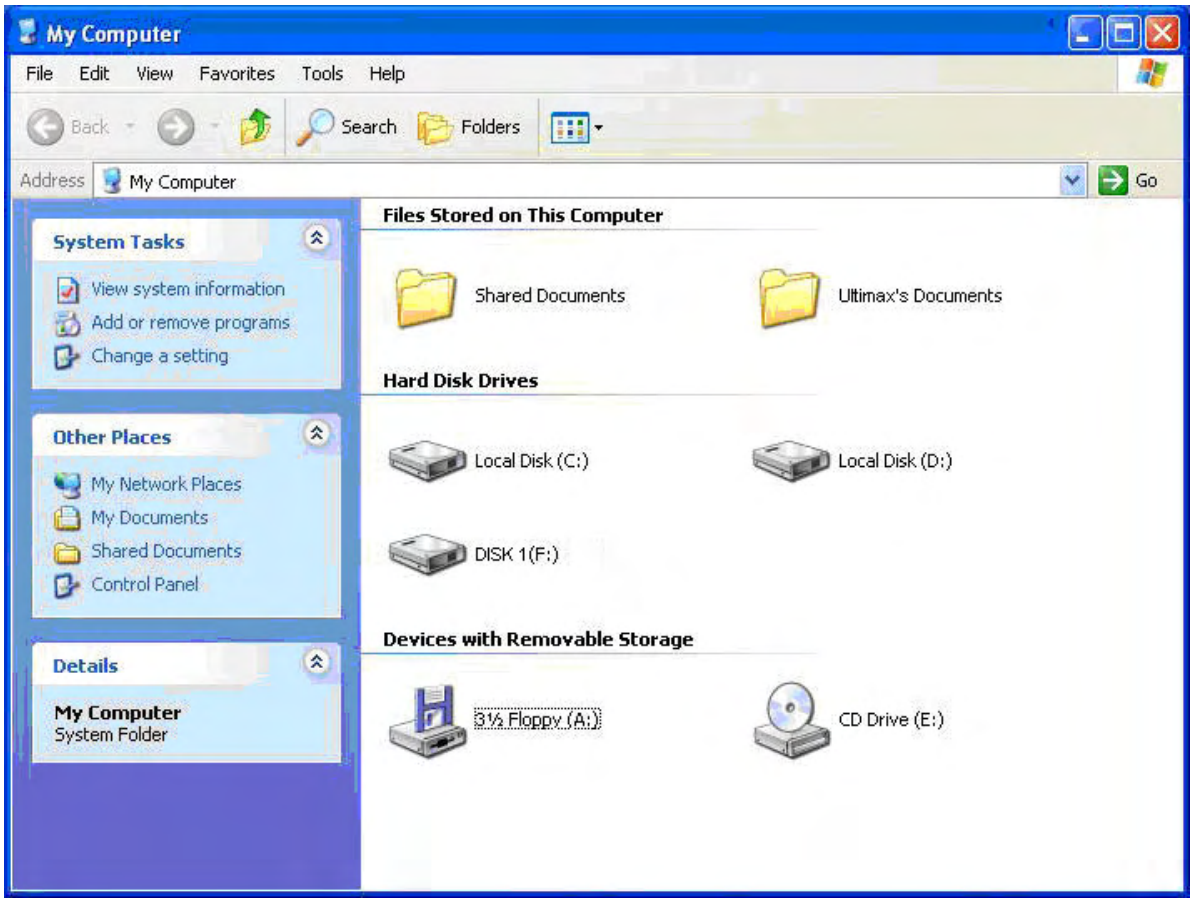

New Partition Wizard
Format Partition
To store data on this partition, you must format it first.
Choose whether you want to format this partition, and if so, what settings you want to use.
Do not format this partition
Format this partition with the following settings:
File system: NTFS
Allocation unit size: Default
Volume label: DISK 1
Perform a quick format
Enable file and folder compression
< Back
Next >
Cancel

10. When the **New Partition Wizard** has completed, click **Finish**, and restart your computer.

The status of the created partition in the Disk Management window will change to "**Formatting".** The percentage complete will be displayed. Depending upon the size of the partition, the format process may take several minutes. When completed, the status will change to **"Healthy"** and the name and drive letter will be updated. Once the disk reports Healthy, it appears to the computer and ready to use.



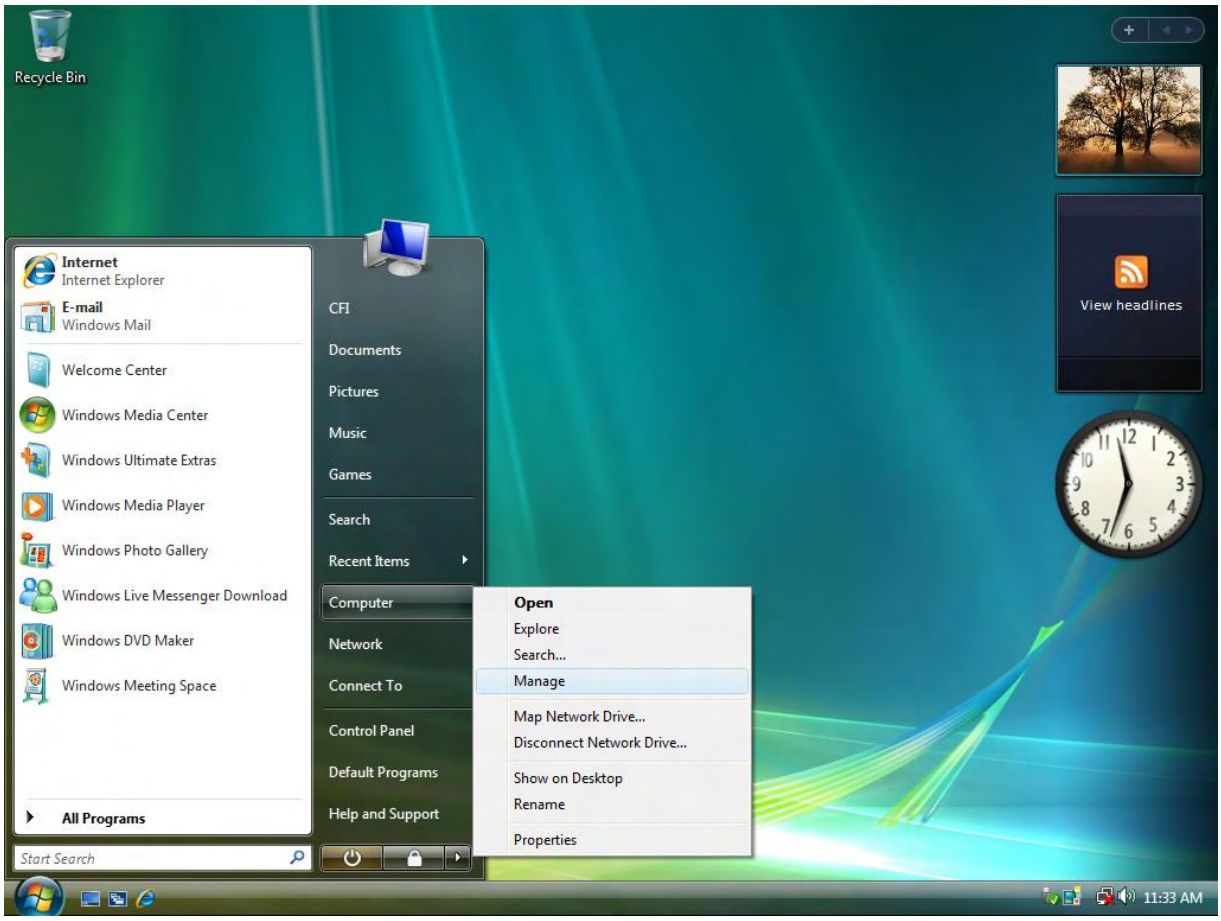
Repeat the above procedure if there are any other partitions. Close the Data Management window by clicking on the small boxed "X" in the top right corner of the window. Click on the "My Computer" icon on the Desktop. The new drives will be display and properly named. The new disks are now available for use.



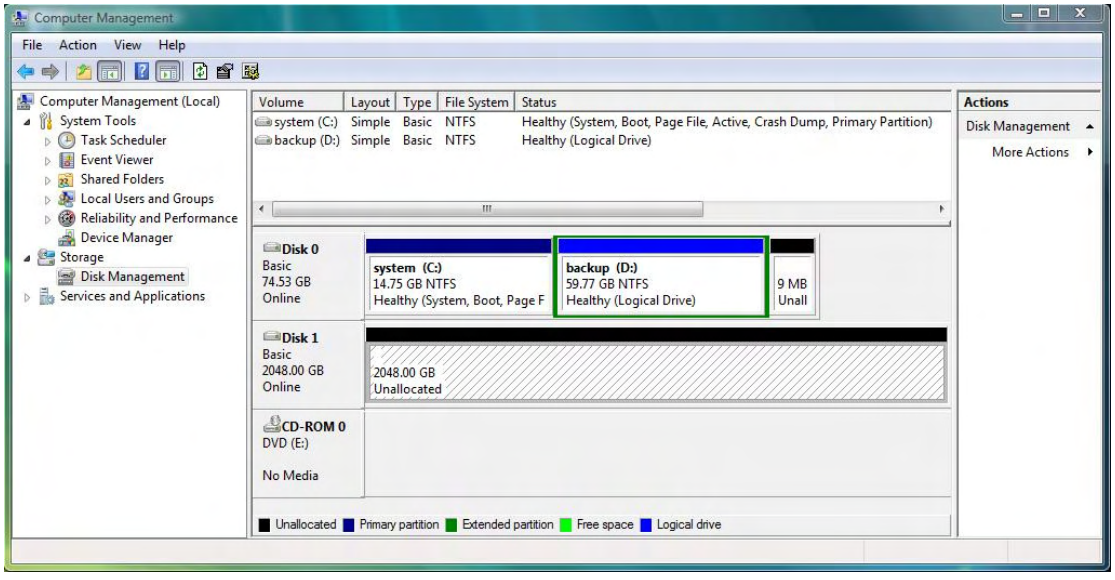
4.3 ALLOCATING PARTITION ON WINDOWS VISTA (32/64BITS)

Before creating any partitions, disk drive mode must first be created using the DIP switch on the rear panel. Once the sets have been created, allow the system to load Windows. Once Windows is running, open the **Computer Management** window.

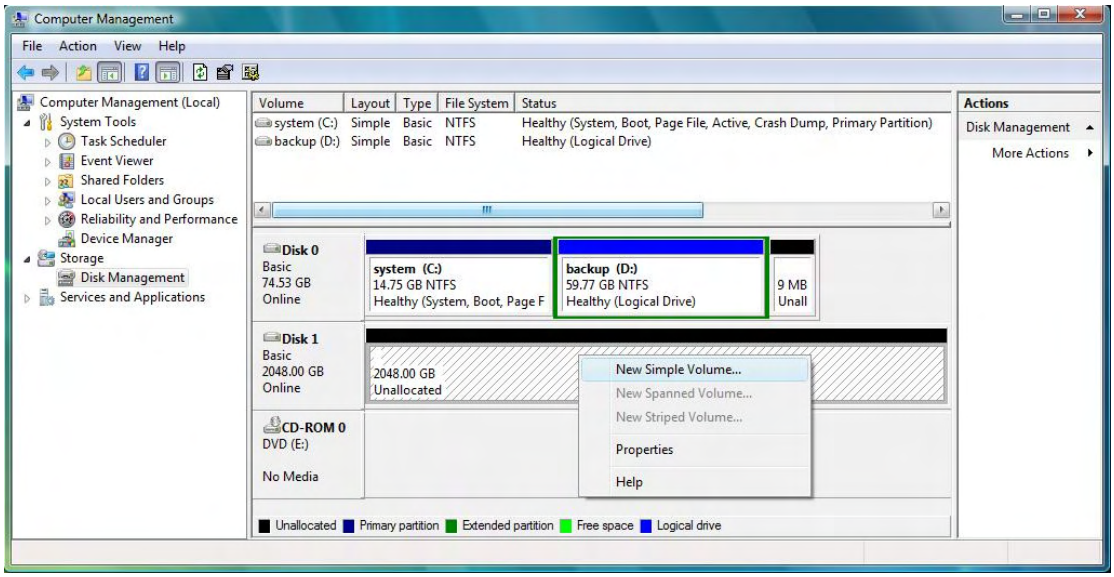
1. Right-click on **Computer** and select **Manage** from the pop-up menu.



2. Select **Disk Management** under **Storage** to view the disk drives.



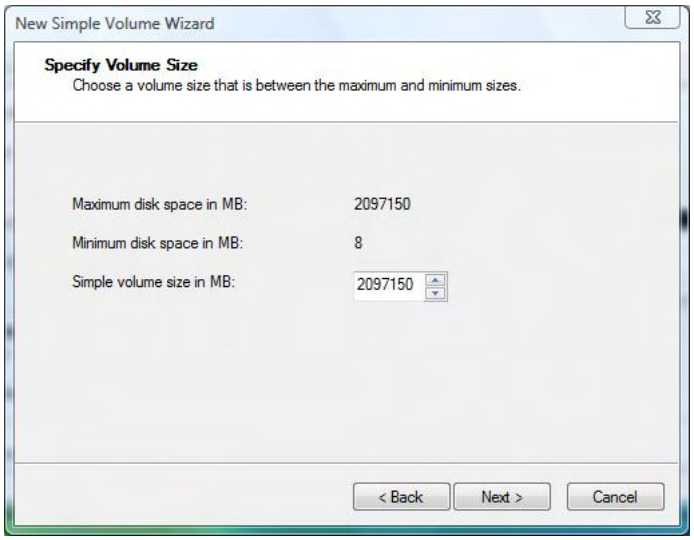
3. Right-click on each **Unallocated** partition and select **New Simple Volume** from the pop-up menu.



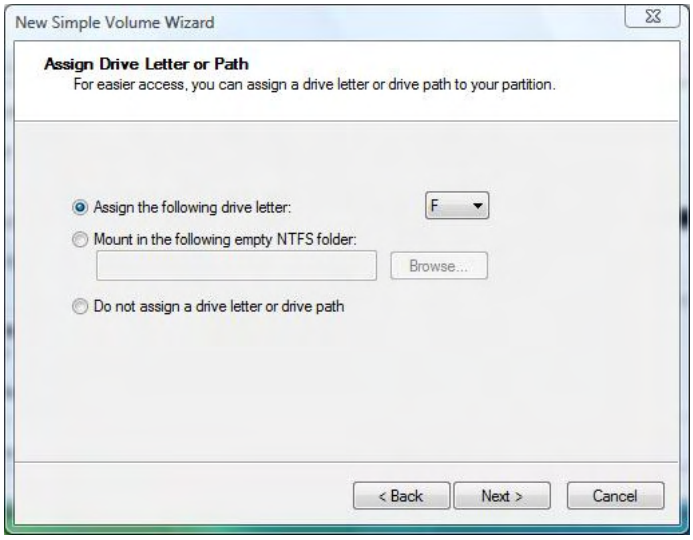
4. Click **Next** to create a simple volume.

New Simple Volume Wizard
Welcome to the New Simple Volume Wizard
This wizard helps you create a simple volume on a disk.
A simple volume can only be on a single disk.
To continue, click Next.
< Back
Next >
Cancel

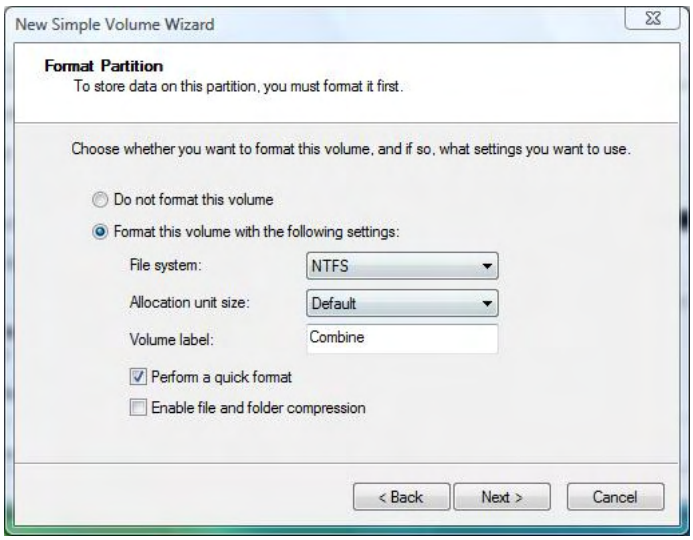
5. Select the **Simple volume size** you want to create, click **Next**.


New Simple Volume Wizard
Specify Volume Size
Choose a volume size that is between the maximum and minimum sizes.
Maximum disk space in MB: 2097150
Minimum disk space in MB: 8
Simple volume size in MB: 2097150
< Back
Next >
Cancel

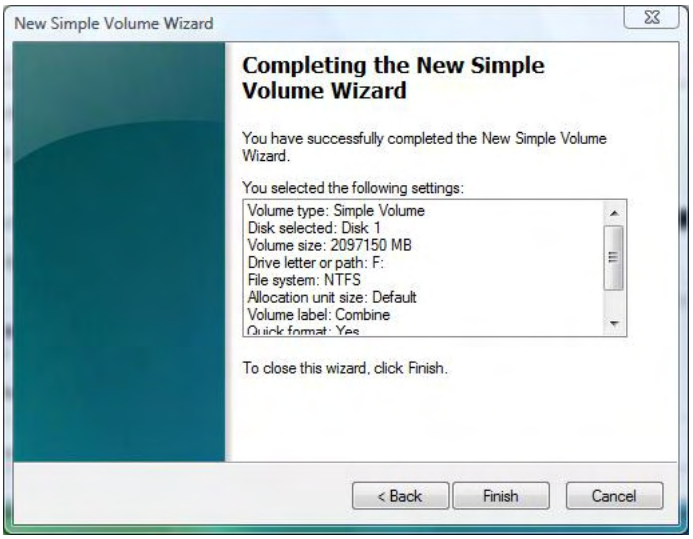
6. Assign the drive letter or path you want to create, click **Next**.


New Simple Volume Wizard
Assign Drive Letter or Path
For easier access, you can assign a drive letter or drive path to your partition.
Assign the following drive letter:
F
Mount in the following empty NTFS folder:
Browse...
Do not assign a drive letter or drive path
< Back
Next >
Cancel

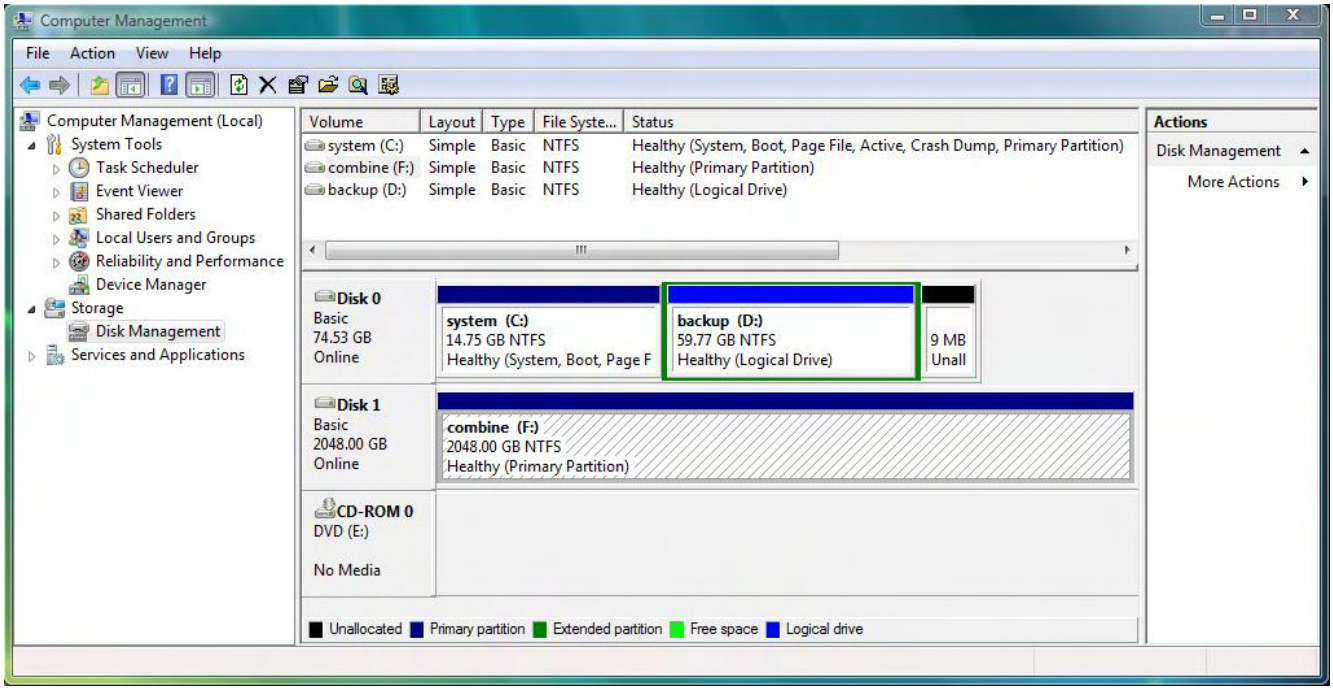
7. Click **Format this volume with the following settings** and **Perform a quick format**, select the **File system**, **Allocation unit size**, **Volume label**, click **Next**.


New Simple Volume Wizard
Format Partition
To store data on this partition, you must format it first.
Choose whether you want to format this volume, and if so, what settings you want to use.
Do not format this volume
Format this volume with the following settings:
File system:
NTFS
Allocation unit size:
Default
Volume label:
Combine
Perform a quick format
Enable file and folder compression
< Back
Next >
Cancel

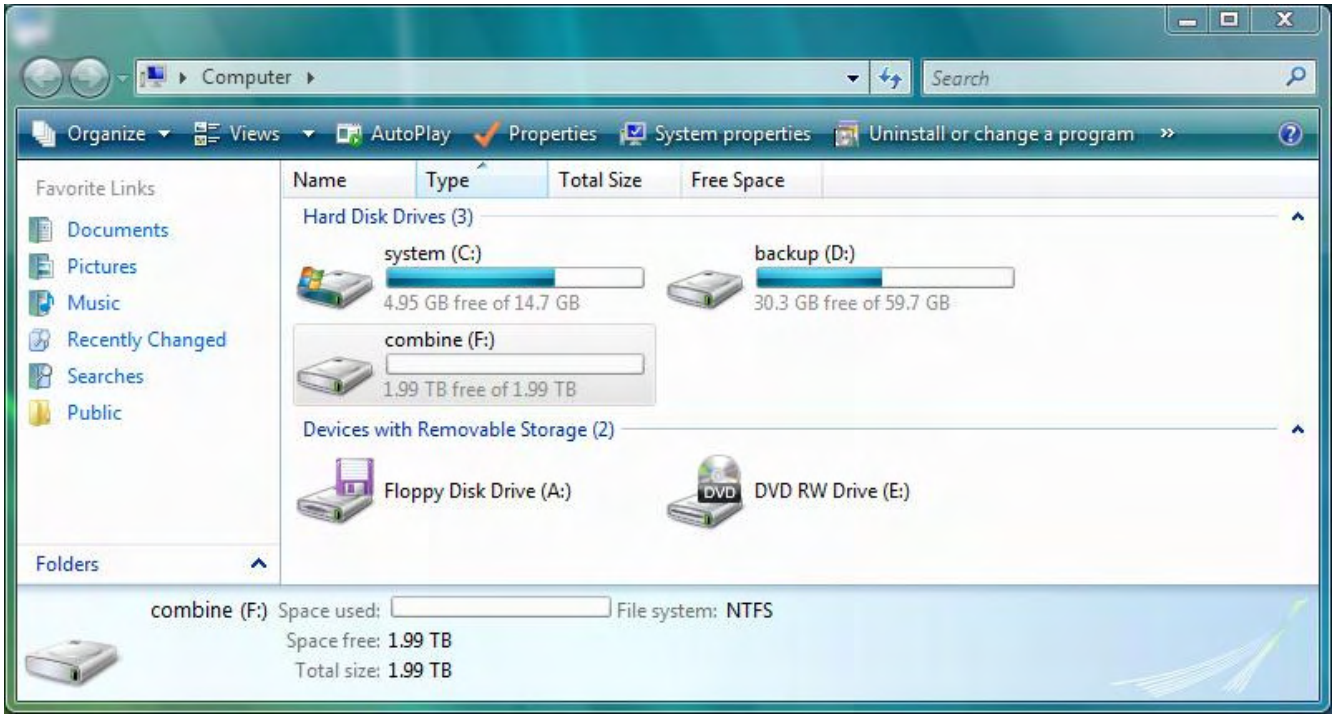
8. When the **New Simple Volume Wizard** has completed, click **Finish**.


New Simple Volume Wizard
Completing the New Simple Volume Wizard
You have successfully completed the New Simple Volume Wizard.
You selected the following settings:
Volume type: Simple Volume
Disk selected: Disk 1
Volume size: 2097150 MB
Drive letter or path: F:
File system: NTFS
Allocation unit size: Default
Volume label: Combine
Quick format: Yes
To close this wizard, click Finish.
< Back
Finish
Cancel

The status of the created partition in the Disk Management window will change to "**Formatting".** The percentage complete will be displayed. Depending upon the size of the partition, the format process may take several minutes. When completed, the status will change to **"Healthy"** and the name and drive letter will be updated. Once the disk reports Healthy, it appears to the computer and ready to use.



Repeat the above procedure if there are any other partitions. Close the Data Management window by clicking on the small boxed "X" in the top right corner of the window. Click on the "My Computer" icon on the Desktop. The new drives will be display and properly named. The new disks are now available for use.

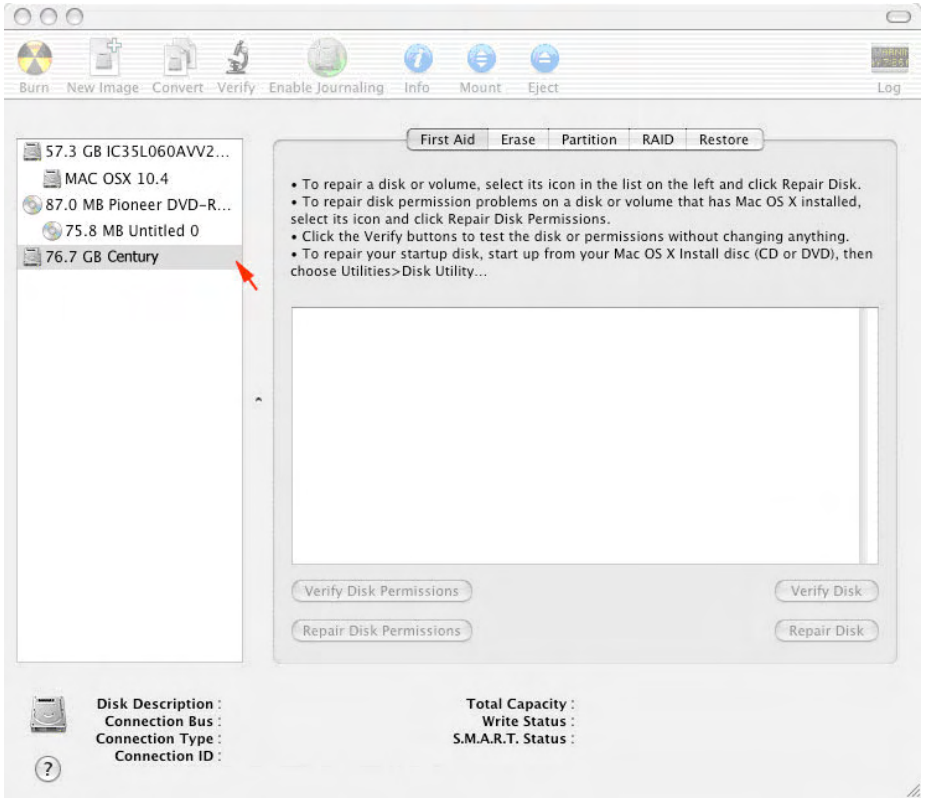


4.4 ALLOCATING PARTITION ON MACINTOSH OS X

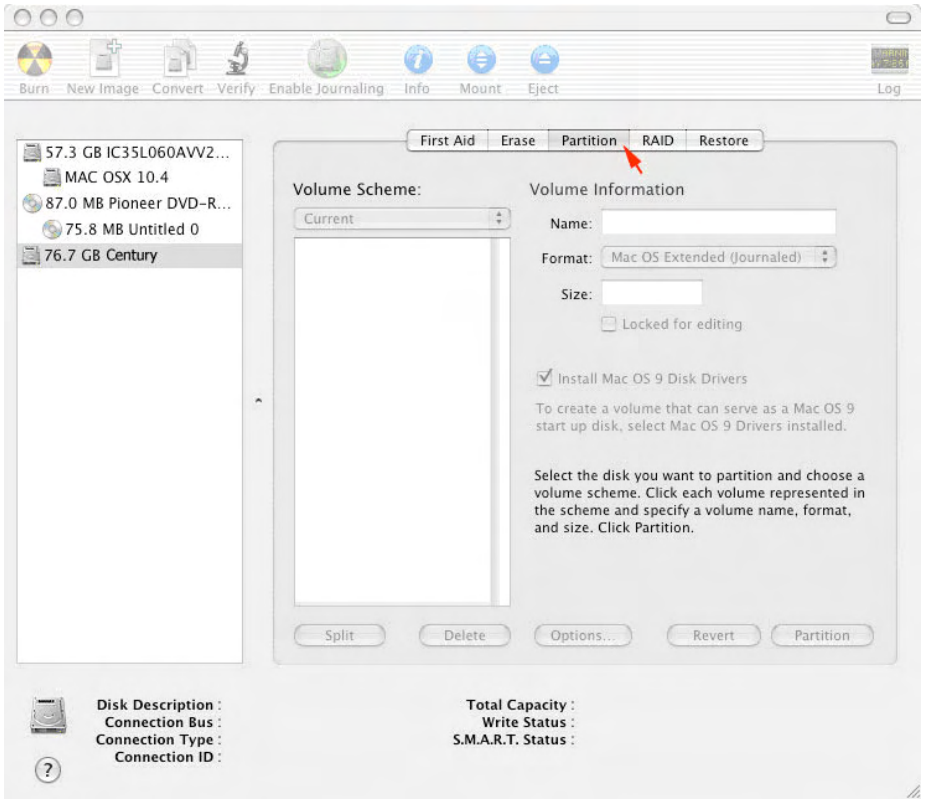
1. Click **Go**, click on **Utilities**.

2. Double-click **Disk Utility**.

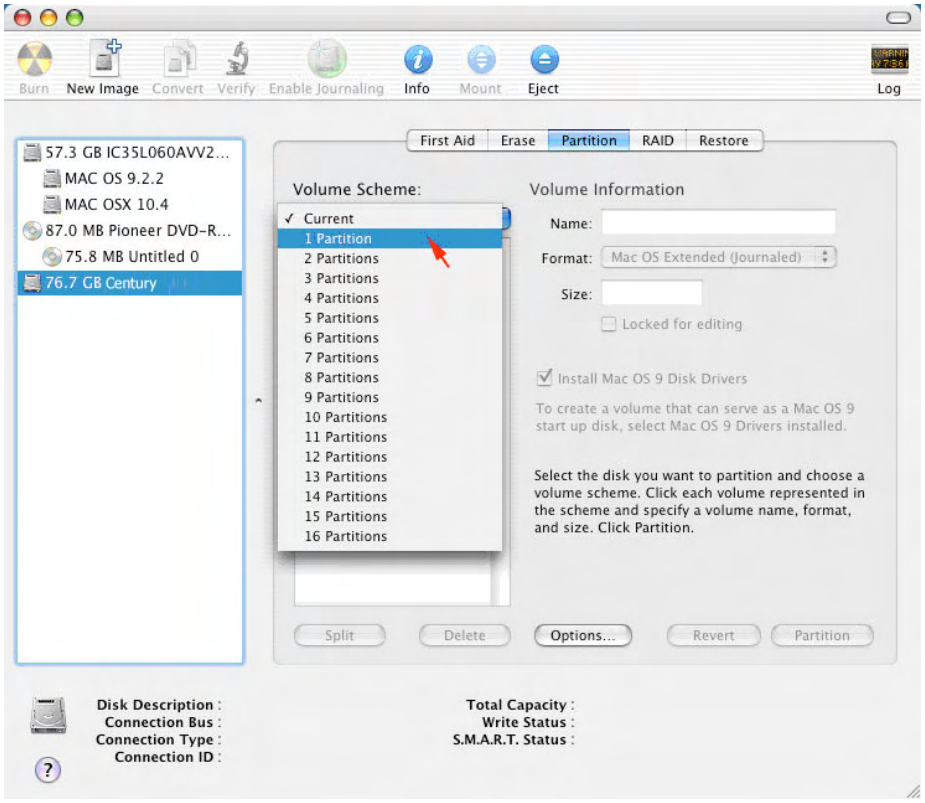
3. In the windows on the left, Select the newly added Storage


Burn
New Image
Convert
Verify
Enable Journaling
Info
Mount
Eject
Log
57.3 GB IC35L060AVV2...
MAC OSX 10.4
87.0 MB Pioneer DVD-R...
75.8 MB Untitled 0
76.7 GB Century
First Aid
Erase
Partition
RAID
Restore
• To repair a disk or volume, select its icon in the list on the left and click Repair Disk.
• To repair disk permission problems on a disk or volume that has Mac OS X installed, select its icon and click Repair Disk Permissions.
• Click the Verify buttons to test the disk or permissions without changing anything.
• To repair your startup disk, start up from your Mac OS X Install disc (CD or DVD), then choose Utilities>Disk Utility...
Verify Disk Permissions
Verify Disk
Repair Disk Permissions
Repair Disk
Disk Description :
Connection Bus :
Connection Type :
Connection ID :
Total Capacity :
Write Status :
S.M.A.R.T. Status :

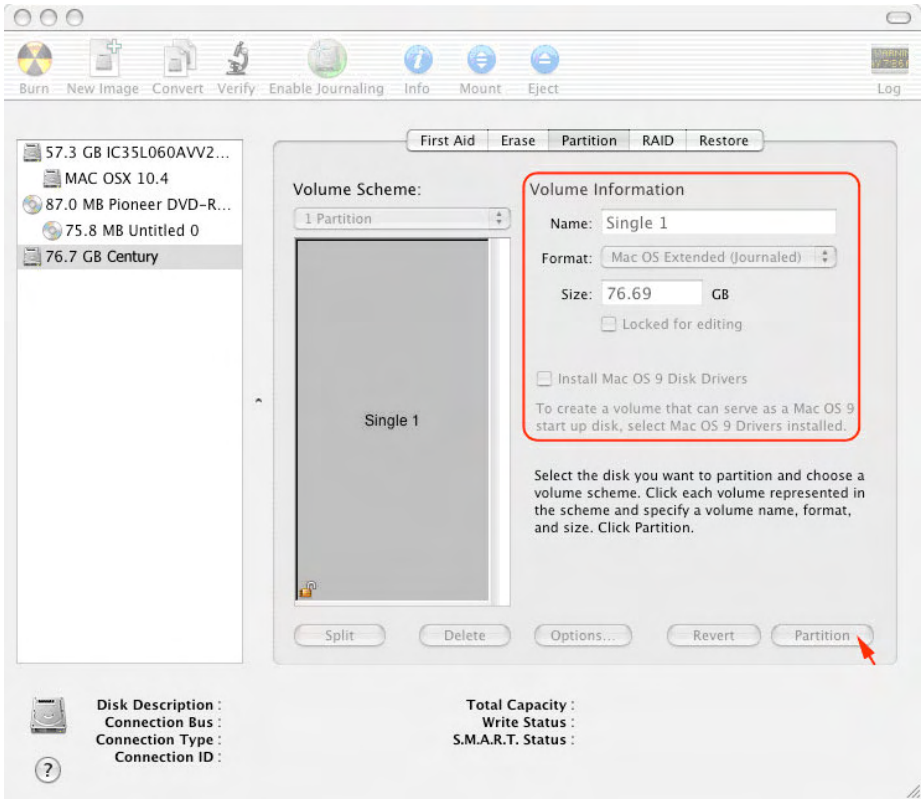
4. In the windows on the right, click **Partition** to go to partition window.



5. Select **Volumes Scheme**.



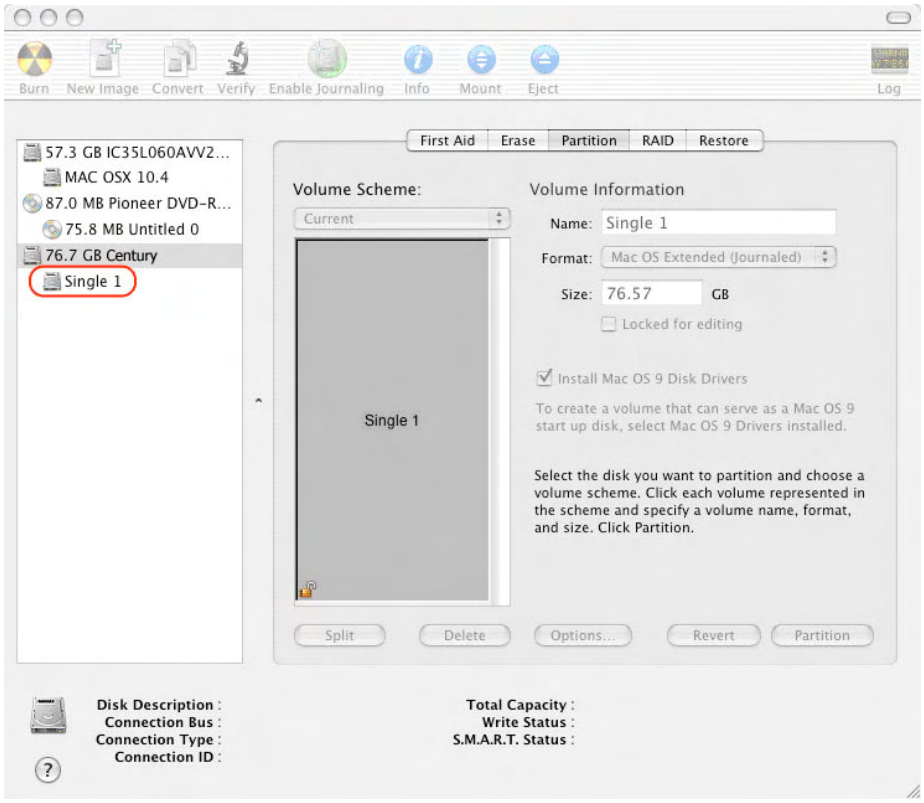
6. Enter **Volumes Information**, such as “Name” and “Format” click **Partition**.



7. Confirm to partition the disk by click **Partition**.

Partition Disk
Partitioning a disk will destroy all information on the disk.
Are you sure you wish to erase the disk ?
Cancel
Partition

8. The newly formatted disk with the Volume name will display on the windows in the left.



9. Repeat the above procedure as needed for any other disks.
10. Close the Disk Utility window upon completion.
11. The new disks will appear on the desktop and ready for use..

5 FAQ

1. The unit is not recognizing in the disk management/disk utility.

Make sure USB and Power cables are connected properly. Reconnect the cables and power on the unit.

2. The unit is not working consistently with the computer.

Windows 3.x/ 95/ 98SE/ ME/ NT is not supported. Please check with your computer's operating systems versions.

3. When copying files, the transfer speed is slow.

The transfer spend is slow when connect to USB1.1 interface. In order to increase the transfer rate, using USB 2.0 is recommended.

4. **When format in the Windows 2000/ XP/ Vista/ Server 2003, the dialog box appear "Unfinished formatting"**

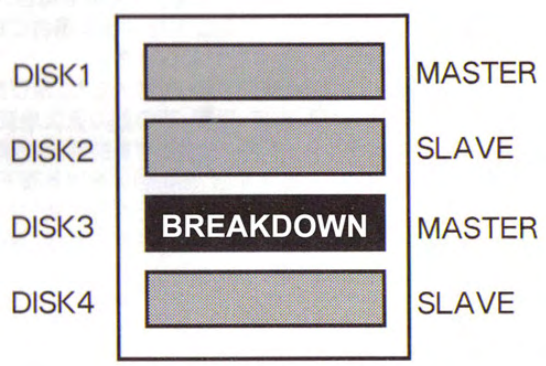
Windows 2000/ XP/ Vista/ Server 2003 can not format HDD over 32GB by FAT32, Please format by NTFS

5. When using different capacity or brand HDD, can we still using Combine mode?

Yes.

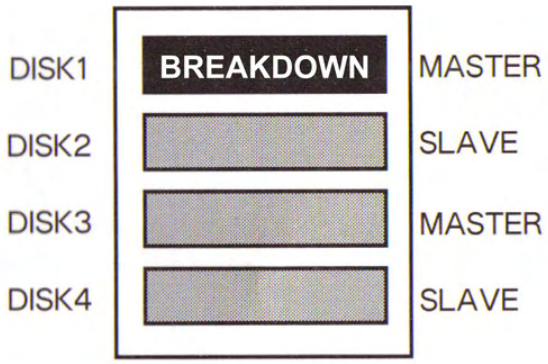
6. When Hard Drive failure on Combine mode, is it possible to recover the data in other hard drive?

It depends on the location of the failure hard drive. The "Sample 2" image below, the entire disk can not be read. Failure hard drive and any hard drive afterward will fail to read, hence data in those hard drive will be loss.



Sample 1

In Sample 1, data can be read from disk 1 to disk 2, while any data on the disk 3 and 4 will be loss.



Sample 2

In Sample 2, no data can be read from any disk.